

REMARKS

Reconsideration and allowance in view of the foregoing amendments and the following remarks are respectfully requested.

Claims 2 and 4 have been amended. New claims 9-19 have been added. Claims 1-19 are pending in this application.

The disclosure stands objected to because of the informalities. In response, Applicant has amended the disclosure by changing "normal temperature" to -- room temperature - in each and every occurrence. Applicant believes that the disclosure is now in a proper format. Withdrawal of the objection to the disclosure is respectfully requested.

Claims 2 and 4 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Again, Applicant has amended claims 2 and 4 by changing "normal temperature" to -- room temperature --. It is believed that claims 2 and 4 are now in full compliance with 35 U.S.C. §112, second paragraph.

Claims 1, 3 and 8 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kwon et al. in view of Dass et al. and Mikagi. Applicant traverses the rejection for the following reasons.

Applicant submits that the prior art cited by the Examiner, as combined, neither disclose nor suggest all of the features of the claimed invention. In particular, Applicant submits that Kwon et al. fails to disclose or suggest the step of forming a cobalt mono-silicide film on the gate and the junction area, by performing a first RTP process. As admitted by the Examiner, Kwon et al. is moot with regard to the ion implanting process. It is also submitted that Kwon et al. further fails to disclose or suggest the step of forming a cobalt di-silicide film, by removing the non-reacting cobalt film and the buffer layer and then performing a second RTP process.

According to the claimed invention, the first RTP process is performed after the buffer layer is formed on the whole structure. With regard to the second RTP process, it is performed after removing the buffer layer. In contrast, the first RTP process is performed before forming the capping layer 120 according to Kwon et al. Contrary to the claimed invention, the second RTP process of Kwon et al. is performed as the capping layer is present. Therefore, Kwon et al. clearly fails to disclose or suggest the first and second RTP process and the ion implanting process.

With regard to the ion implanting process, the Examiner is relying on Dass et al. Although Dass et al. discloses an ion implanting process to form the amorphous cobalt silicide layer, Dass et al. still fails to disclose or suggest the carbon ion implanting process as the buffer layer is present. Further, Dass et al. is moot with regard to "carbon ion" in its implanting process. Therefore, Dass et al. itself fails to teach the ion implanting process of the claimed invention such that it does not supply the above-noted deficiencies of Kwon et al.

With regard to the step of forming a cobalt di-silicide film, the Examiner is relying on Mikagi. However Mikagi merely discloses Co film deposited on the residual Si-O-C based reaction inhibitor layer by sputtering, so that a silicidation reaction is caused on an interface between the Co film and the polysilicon gate electrode and interfaces between the Co film and the surfaces of the source and drain regions. In other words, Mikagi still fails to disclose or suggest the step of forming a cobalt di-silicide film, by removing the none-reacting cobalt film and the buffer layer and then performing a second RTP process.

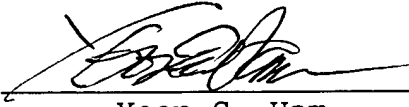
Therefore, for all of the reasons discussed above, claim 1 is not made obvious by Kwon et al. in view of Dass et al. and Mikagi under 35 U.S.C. §103(a). Claim 8 recites similar limitations as claim 1. Accordingly, claim 3 which is dependent on claim 1 and claim 8, are also believed patentable in view of Kwon et al., Dass et al. and Mikagi.

New claims 9-19 also recite the first RTP process, the carbon ion implanting process and the second RTP process similar to claim 1. Therefore, claims 9-19 are also believed allowable in view of the references cited by the Examiner.

Applicant notes with appreciation that claims 5-7 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. As claim 1 is believed allowable as noted above, Applicant submits that claims 5-7, which are dependent on claim 1, are also believed allowable.

All objections have been addressed, it is respectfully submitted that claims 1-19 are now in condition for allowance and a notice to that effect is earnestly solicited. If any issues remain to be resolved, the Examiner is cordially invited to telephone the undersigned at the number listed below.

Respectfully submitted,
MAYER BROWN ROWE & MAW LLP

By: 
Yoon S. Ham

Reg. No. 45,307

Direct Tel.: (202) 263-3280

MAYER BROWN ROWE & MAW LLP
1909 K Street, NW
Washington, DC 20006-1101
Atty. Dkt.: **123034-05004773**
YH:jr